

melting said amorphous silicon layer using a laser beam so as to form a polycrystalline silicon layer; and

re-melting an upper portion of said polycrystalline silicon layer using a laser beam so as to re-crystallize said upper portion.

8. The method of forming a polycrystalline silicon layer according to claim 7, wherein said re-melting is performed by passing said laser beam through a mask having a low transparency region.

9. The method of forming a polycrystalline silicon layer according to claim 8, wherein said low transparency region includes a stripe shape.

10. The method of forming a polycrystalline silicon layer according to claim 7, wherein said mask further includes a high transparency region.

11. The method of claim 7, further including moving the substrate relative to a laser beam.

12. The method of claim 7, further including dehydrogenating said amorphous silicon layer before melting.

13. A laser-based crystallization apparatus, comprising:
a laser beam;

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a mask receiving said laser beam, said mask including a high transparency region for passing said laser beam with little attenuation, and a low transparency region for attenuating said laser beam;

a projection lens for receiving said laser beam from said mask, said projection lens for focusing said laser beam onto a substrate.

14. A laser-based crystallization apparatus according to claim 13, wherein said low transparency region has a stripe shape.

15. A laser-based crystallization apparatus according to claim 13, wherein said high transparency region has a stripe shape.

16. A laser-based crystallization apparatus according to claim 13, wherein said substrate moves relative to said laser beam.

17. A laser-based crystallization apparatus according to claim 13, wherein said laser beam is an excimer laser beam.--

REMARKS

Applicants respectfully request entry of the attached Substitute Specification, new claims, and a drawing change. Applicants have attached clean pages of the claims. On full faith and belief, the undersigned attests that no new matter has been added to the Substitute

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